

RXW-LIB-900 • RXW-LIB-868 • RXW-LIB-922 • RXW-LIB-921



## HOBObet Solar Radiation (Silicon Pyranometer) Sensor

Wirelessly measures light intensity for frequencies relevant to solar radiation; communicates data to the HOBOb RX3000 or the HOBOb MicroRX station; preconfigured and ready to deploy.

### Important Information

A complete system requires at least one HOBOb RX3000 Remote Monitoring Station, a HOBObet Wireless Manager, and a HOBObet Wireless Sensor OR one HOBOb MicroRX Station (which has an integrated HOBObet Wireless Manager) and a HOBObet Wireless Sensor. HOBObet Wireless Repeaters (RXW-RPTR-xxx or RXW-RPTR-B-xxx) can be added to extend the range.

### Supported Measurements

Evapotranspiration, Light Intensity, Solar Radiation

### Features

#### Sensor Features

- Measurement range of 0 to 1280 W/m<sup>2</sup> over a spectral range of 300 to 1100 nm
- Enclosed in an anodized aluminum housing with acrylic diffuser and O-ring seal

#### Wireless Features

- 900 MHz wireless mesh self-healing technology
- 450 to 600 meter (1,500 to 2,000 feet) wireless range and up to five hops
- Up to 50 wireless sensors or 336 data channels per HOBOb RX station
- Simple button-push to join the HOBObet wireless network
- Onboard memory to ensure no data loss
- Powered by rechargeable AA batteries and built-in solar panel

### Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- Email [sales@onsetcomp.com](mailto:sales@onsetcomp.com)
- Call 1-508-759-9500
- In U.S. toll free 1-800-564-4377
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- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

# HOBOnet Solar Radiation (Silicon Pyranometer) Sensor (RXW-LIB-xxx) Specifications

## Sensor

<b>Measurement Range</b>	0 to 1280 W/m <sup>2</sup>
<b>Spectral Range</b>	300 to 1100 nm
<b>Accuracy</b>	Typically within $\pm 10$ W/m <sup>2</sup> or $\pm 5\%$ , whichever is greater in sunlight; Additional temperature induced error $\pm 0.38$ W/m <sup>2</sup> /°C from 25°C (0.21 W/m <sup>2</sup> /°F from 77°F)
<b>Angular Accuracy</b>	Cosine corrected 0 to 80 degrees from vertical (see Plot B); Azimuth Error $\leq \pm 2\%$ error at 45 degrees from vertical, 360 degree rotation
<b>Resolution</b>	1.25 W/m <sup>2</sup>
<b>Drift</b>	$\leq \pm 2\%$ per year

## Wireless Mote

<b>Operating Temperature Range</b>	-25° to 60°C (-13° to 140°F) with rechargeable batteries -40 to 70°C (-40 to 158°F) with lithium batteries
<b>Radio Power</b>	12.6 mW (+11 dBm) non-adjustable
<b>Transmission Range</b>	Reliable connection to 457.2 m (1,500 ft) line of sight at 1.8 m (6 ft) high Reliable connection to 609.6 m (2,000 ft) line of sight at 3 m (10 ft) high
<b>Wireless Data Standard</b>	IEEE 802.15.4
<b>Radio Operating Frequencies</b>	RXW-LIB-900: 904–924 MHz RXW-LIB-868: 866.5 MHz RXW-LIB-922: 916–924 MHz RXW-LIB-921: 921 MHz
<b>Modulation Employed</b>	OQPSK (Offset Quadrature Phase Shift Keying)
<b>Data Rate</b>	Up to 250 kbps, non-adjustable
<b>Duty Cycle</b>	$< 1\%$
<b>Maximum Number of Motes</b>	Up to 50 wireless sensors or 336 data channels per one HOBOnet RX station
<b>Logging Rate</b>	1 minute to 18 hours
<b>Number of Data Channels</b>	2
<b>Battery Type/ Power Source</b>	Two AA 1.2V rechargeable NiMH batteries, powered by built-in solar panel or two AA 1.5 V lithium batteries for operating conditions of -40 to 70°C (-40 to 158°F)
<b>Battery Life</b>	With NiMH batteries: Typical 3–5 years when operated in the temperature range -20° to 40°C (-4°F to 104°F) and positioned toward the sun (see Deployment and Mounting), operation outside this range will reduce the battery service life With lithium batteries: 1 year, typical use
<b>Memory</b>	16 MB
<b>Dimensions</b>	Sensor: 4.1 cm height x 3.2 cm diameter (1.61 x 1.26 inches) Cable length: 2 m (6.56 ft) Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)
<b>Weight</b>	Sensor and cable: 109 g (3.85 oz) Mote: 223 g (7.87 oz)
<b>Materials</b>	Sensor: Anodized aluminum housing with acrylic diffuser and O-ring seal Mote: PCPBT, silicone rubber seal
<b>Environmental Rating</b>	Sensor: Weatherproof Mote: IP67, NEMA 6
<b>Compliance Marks</b>	CE Logo RXW-LIB-900 page not found or type unknown RXW-LIB-868  RXW-LIB-922 page not found or type unknown RXW-LIB-921